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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,149

05/31/2006

Christophe Chaillou

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EXAMINER

LAM, VINH TANG

ART UNIT

PAPER NUMBER

2629

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,149	<b>Applicant(s)</b> CHAILLOU ET AL.	
	<b>Examiner</b> VINH T. LAM	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05/31/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/07/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

This is a Supplemental Action to replace the previous Office Action because the Examiner inadvertently sent the Incorrect Action responding to the Pre-Amendment Claims. Please disregard the previous Office Action.

### *Specification*

1. The disclosure is objected to because of the following informalities:

Typographical Error.

Col. 2, [0035] "... the first shaft **2**..." should be "... the first shaft **3**..."

Appropriate correction is required.

### *Claim Objections*

2. Claim **7** is objected to because of the following informalities: Typographical error.

"...at the **interaction** between the axes..." should be "...at the **intersection** between the axes..." Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims **1, 2, 5-9, and 13** are rejected under 35 U.S.C. 102(b) as being anticipated by **Guy et al. (US Patent Application Publication No. 2002/0158842 (already of record))**.

Regarding Claim **1**, **Guy et al.** teach an isotonic interface for controlling a real or virtual object, the interface comprising:

support means for supporting three pivot shafts the axes of the first and second shafts being mutually parallel and perpendicular to the axis of the third shaft (Col. **2**, [0031]);

handle means enabling each of said shafts to be pivoted (Col. **2**, [0031]); and

measurement means for measuring the displacement of each of said shafts so as to enable a real or virtual object to be controlled in three degrees of freedom (Col. **2**, [0031]).

Regarding Claim **2**, **Guy et al.** teach an isotonic interface according to claim 1, in which said support means comprise:

a support element secured to a base and connected to the first shaft via a first pivot connection (Col. **2**, [0031]);

an arm secured perpendicularly to the first shaft and connected to the second shaft via a second pivot connection (Col. **2**, [0031]); and

a connection element secured to the second shaft and connected to the third shaft via a third pivot connection (Col. **2**, [0031]).

Regarding Claim **5**, **Guy et al.** teach the handle means comprise a rod having its distal end secured to the third shaft (Col. **2**, [0031]).

Regarding Claim **6**, **Guy et al.** teach the handle means include an endpiece disposed at the proximal end of the rod and enabling it to be grasped prismatically (Col. **2**, [0031]).

Regarding Claim **7**, **Guy et al.** teach the distal end of said rod is disposed at the intersection between the axes of rotation of the second and third shafts (Col. **2**, [0031]).

Regarding Claim **8**, **Guy et al.** teach the measurement means are constituted by angular position sensors disposed on the first, second, and third shafts (Col. **1**, [0005] and Col. **7**, [0073]).

Regarding Claim **9**, **Guy et al.** teach that at least one of said shafts includes drive means enabling a force return to be applied to the interface (Col. **1**, [0005]).

Regarding Claim **13**, **Guy et al.** teach that provision is made for additional control means for controlling said real or virtual object, enabling said object to be controlled in at least one additional degree of freedom (Col. **2**, [0007]).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims **10-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Guy et al. (US Patent Application Publication No. 2002/0158842 (already of record))**.

Regarding Claim **10**, **Guy et al.** teach a height of the support.

**Guy et al.** do not teach the height of the support element lies in the range 100 mm to 130 mm.

It would have been obvious for **Guy et al.** to teach that the height of the support element lies in the range 100 mm to 130 mm is a Design Choice. It is well known in the art to modify the part's physical dimensions. One skill in the art would recognize that **Guy et al.** must have the support element lies in the range 100 mm to 130 mm in order to operate in a predetermined "work volume".

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify **Guy et al.** teachings to have the height of the support element lies in the range 100 mm to 130 mm for the benefit of accommodating the design in a predetermined "work volume".

Regarding Claim **11**., **Guy et al.** teach a length of the arm.

**Guy et al.** do not teach the length of the arm lies in the range 50 mm to 60 mm.

It would have been obvious for **Guy et al.** to teach that the length of the arm lies in the range 50 mm to 60 mm is a Design Choice. It is well known in the art to modify the part's physical dimensions. One skill in the art would recognize that **Guy et al.** must have the length of the arm lies in the range 50 mm to 60 mm in order to operate in a predetermined "work volume".

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify **Guy et al.** teachings to have the length of

the arm lies in the range 50 mm to 60 mm for the benefit of accommodating the design in a predetermined “work volume”.

Regarding Claim **12**, **Guy et al.** teach a length of the rod.

**Guy et al.** do not teach the length of the rod lies in the range 70 mm to 90 mm.

It would have been obvious for **Guy et al.** to teach that the length of the arm lies in the range 70 mm to 90 mm is a Design Choice. It is well known in the art to modify the part's physical dimensions. One skill in the art would recognize that **Guy et al.** must have the length of the arm lies in the range 70 mm to 90 mm in order to operate in a predetermined “work volume”.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify **Guy et al.** teachings to have the length of the arm lies in the range 70 mm to 90 mm for the benefit of accommodating the design in a predetermined “work volume”.

6. Claims **3**, **4**, **14**, and **15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Guy et al. (US Patent Application Publication No. 2002/0158842 (already of record))** in view of **Fung et al. (US Patent No. 5116180 (already of record))**.

Regarding Claim **3**, **Guy et al.** teach an isotonic interface with a support means.

**Guy et al.** do not teach the support means include a second support element secured to the base and connected to the first shaft via a pivot connection enabling the stability of the interface to be increased.

In the same field of endeavor, **Fung et al.** teach the support means include a second support element secured to the base and connected to the first shaft via a pivot connection for the benefit of increasing the stability of the interface (Col. 3, Ln. 47-50).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Guy et al.** and **Fung et al.** teachings for the benefit of increasing the stability of the interface.

Regarding Claim 4, **Guy et al.** teach an isotonic interface with the support means.

**Guy et al.** do not teach that the support means include a second arm parallel to the first, secured to the first shaft and connected to said connection element via a fourth shaft.

In the same field of endeavor, **Fung et al.** teach the support means include a second arm parallel to the first, secured to the first shaft and connected to the connection element via a fourth shaft (Col. 4, Ln. 1-3) for the benefit of increasing the stability of the interface.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Guy et al.** and **Fung et al.** teachings for the benefit of increasing the stability of the interface.

Regarding Claim 14, **Guy et al.** teach an isotonic interface with control feedback.

**Guy et al.** do not teach the position-holding means are provided serving to avoid any significant departure of the rod from its most recent position when the user lets go the rod.



In the same field of endeavor, **Fung et al.** teach the position-holding means are provided (Col. 7, Ln. **41-43**) for the benefit of avoiding any significant departure of the rod from its most recent position when the user lets go the rod.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Guy et al.** and **Fung et al.** teachings for the benefit of avoiding any significant departure of the rod from its most recent position when the user lets go the rod.

Regarding Claim **15**, **Guy et al.** teach the position-holding means comprise a counterweight (Col. 7, [0070]) and passive brake means (Col. 7, [0084]).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rosenberg (US Patent Application Publication No. 2004/0108992).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH T. LAM whose telephone number is (571)270-3704. The examiner can normally be reached on M-F (7:30-5:00) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571 272 1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VTL/

/Amare Mengistu/

Supervisory Patent Examiner, Art Unit 2629